	n the	.,	A.E.W. 0001 E		A11	REC'D 1	5 APR 2005
INTE	ERNATIONAL SEA			WIPO	POT'		
То	:				P	ST	
	see form	PCT/ISA/220		INTERNATION	IAL SEA	INION OI ARCHING e 43 <i>bis</i> .1	AUTHORITY
				Date of mailing (day/month/year) see	oform PCT/	SA/210 (seco	nd sheet)
1	licant's or agent's file form PCT/ISA/2			FOR FURTHER A			
	mational application T/IB2005/050012		International filing date (c	day/month/year)	Priority date (day/month/year) 06.01.2004		
	mational Patent Clas 0L19/02	ssification (IPC) or	both national classification	and IPC			,
1	licant NINKLIJKE PHIL	LIPS ELECTRO	ONICS, N.V.				
1.	This opinion contains indications relating to the following items:						
ŀ	☑ Box No. I	Basis of the op	inion				
	☐ Box No. II	Priority		•			
	☐ Box No. III	Non-establishn	nent of opinion with rega	rd to novelty, inventive	e step and	industrial an	policability
	☐ Box No. IV	Lack of unity of		•	•		,
☑ Box No. V Reasoned statement under Rule 43bls. applicability; citations and explanations			.1(a)(i) with regard to r supporting such state	novelty, inv ement	entive step	or industrial	
	☐ Box No. VI	Certain docume	ents cited				
	☐ Box No. VII	Certain defects	in the international appl	lication			
	☐ Box No. VIII	Certain observa	ations on the internation	al application			•
2.	FURTHER ACTI	ON			•		
	the applicant cho	f the Internationa oses an Authorii eau under Rule (Iminary examination is mal Preliminary Examining ty other than this one to 66.1 bis(b) that written or	Authority ("IPEA"). Ho	owever, thi	s does not a	pply where
	If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.					n of three	

Name and mailing address of the ISA:

European Patent Office - P.B. 5818 Patentiaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016

For further options, see Form PCT/ISA/220.

For further details, see notes to Form PCT/ISA/220.

Authorized Officer

Blaas, D-L

Telephone No. +31 70 340-3244



International application No. PCT/IB2005/050012

			·
_	Во	x No	. I Basis of the opinion
1.	Wit the	th req lang	gard to the language, this opinion has been established on the basis of the international application in uage in which it was filed, unless otherwise indicated under this item.
		lanç	s opinion has been established on the basis of a translation from the original language into the following guage , which is the language of a translation furnished for the purposes of international search der Rules 12.3 and 23.1(b)).
2.	Wit nec	th reg cessa	gard to any nucleotide and/or amino acid sequence disclosed in the international application and ary to the claimed invention, this opinion has been established on the basis of:
	a. t	уре с	of material:
	ı		a sequence listing
	ł	□ t	able(s) related to the sequence listing
	b. fe	orma	t of material:
	[□ i	n written format
	[□ iı	n computer readable form
	c. ti	me o	f filing/furnishing:
	[□ c	contained in the international application as filed.
	[⊐ fi	iled together with the international application in computer readable form.
	[urnished subsequently to this Authority for the purposes of search.
3.		copi	ddition, in the case that more than one version or copy of a sequence listing and/or table relating thereto been filed or furnished, the required statements that the information in the subsequent or additional es is identical to that in the application as filed or does not go beyond the application as filed, as oppriate, were furnished.
4.	Add	itiona	al comments:

International application No. PCT/IB2005/050012

Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)

Yes: Claims

1-20

No: Claims

Inventive step (IS)

Yes: Claims

No:

Claims

1-20

Industrial applicability (IA)

Yes: Claims

1-20

No: Claims

2. Citations and explanations

see separate sheet

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1 Reference is made to the following document/s/:

D1: DE-A1-198 32 472 (Robert Bosch GmbH) 27th January 2000 (2000-01-27)

D2: EP-A2-1 170 727 (NEC Corporation) 9nth January 2002 (2002-01-09)

D3: EP-A-0 554 962 (NOVANEX AUTOMATION N.V) 11 August 1993 (1993-08-11)

The document D1 is regarded as being the closest prior art to the subject-matter of claim 1, and shows (the references in parentheses applying to this document):

A method for automatically equalizing an audio signal (22, 28), the method comprising:

measuring spectral energy values (52) for a plurality of frequency bands; determining spreaded energy values (12, 14) for each frequency band based on the measured spectral energy values and

a spreading function (46, 42), the spreading function defining a spread of sprectral energy across frequency bands; and

updating equalizer settings for each frequency band based on the measured spectral energy values and the spreaded spectral energy values.

Although claim 1 could be read in this sense onto D1, it is clear from the description that the terms "spreaded energy value", "spreading function", and "measured energy value" do have a particular meaning in the context of the present application. These features are determined on page 6, lines 1 to 10. Therefore it is considered that claim 1 is new (Article 33(2) PCT).

The subject-matter of claim 1 differs from this known D1 in that the audio enhancement is done essentially on the acoustics in the room and not on the signal source of the audio signal. The problem to be solved in this context would be how to further enhance the audio signal itself independent of the surrounding room.

The solution to this problem proposed in claim 1 of the present application is

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (SEPARATE SHEET)

International application No.

PCT/IB2005/050012

considered as involving an inventive step (Article 33(3) PCT) for the following reasons:

No document in the found prior art discloses to enhance the audio signal by using psycho acoustic findings and creating special spreading functions to detect a masking energy and to enhance masked energy portions of the audio signal.

Claims 2 - 9 are dependent on claim 1 and as such also meet the requirements of the PCT with respect to novelty and inventive step.

The same reasoning applies, mutatis mutandis, to the subject-matter of the corresponding independent claims 10 and 19, and equally to the dependent claims 11 - 18 and 20, which therefore are also considered new and inventive.

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference PHUS040009WO	FOR FURTHER ACTION	See item 4 below		
International application No. PCT/IB2005/050012	International filing date (day/month/year) 04 January 2005 (04.01.2005)	Priority date (day/month/year) 06 January 2004 (06.01.2004)		
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237				
Applicant KONINKLIJKE PHILIPS ELECTRONICS, N.V.				

1.	 This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis. 1(a). 					
2.	This REPORT consists of a total	l of 6 sheets, including this co	ver sheet.			
	In the attached sheets, any refere to the international preliminary		the International Searching Authority should be read as a reference er I) instead.			
3.	This report contains indications	relating to the following item	s:			
l	Box No. I	Basis of the report				
l	Box No. II	Priority	·			
	Box No. III	Non-establishment of opin applicability	tion with regard to novelty, inventive step and industrial			
	Box No. IV	Lack of unity of invention				
	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement				
	Box No. VI	Certain documents cited				
	Box No. VII	Certain defects in the international application .				
	Box No. VIII	Certain observations on th	e international application			
4.	4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis.2).					
			Date of issuance of this report 10 July 2006 (10.07.2006)			
	The International Bure 34, chemin des Col 1211 Geneva 20, Sv	ombettes	Authorized officer Cecile Chatel			
Facsir	nile No. +41 22 338 82 70		e-mail: pt13@wipo.int			

Form PCT/IB/373 (January 2004)

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From the

IN I ERNATIONAL SEARCHING AUTH	ORITY		WIPO	POT'		
To:		PCT				
see form PCT/ISA/220	WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY					
		(PCT Rule 43 <i>bis</i> .1)				
		Date of mailing (day/month/year) se	e form PCT/ISA/210 (seco	nd sheet)		
Applicant's or agent's file reference see form PCT/ISA/220	, , , , , , , , , , , , , , , , , , , ,	FOR FURTHER ACTION See paragraph 2 below				
International application No. PCT/IB2005/050012	International filing date (c 04.01.2005	(day/month/year) Priority date (day/month/year) 06.01.2004				
International Patent Classification (IPC) or G10L19/02	both national classification	and IPC		,		
Applicant KONINKLIJKE PHILIPS ELECTRO	ONICS, N.V.					
This opinion contains indication	ons relating to the follo	owing items:				

	-
☑ Box No. I	Basis of the opinion
☐ Box No. II	Priority
☐ Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
☐ Box No. IV	Lack of unity of invention
☑ Box No. V	Reasoned statement under Rule 43bis.1(a)(l) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
☐ Box No. VI	Certain documents cited
☐ Box No. VII	Certain defects in the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notifed the International Bureau under Rule 66.1 bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016

☐ Box No. VIII Certain observations on the international application

Blaas, D-L

Authorized Officer

Telephone No. +31 70 340-3244

International application No. PCT/IB2005/050012

_	Bo	N xc	o. I Basis of the opinion		
1.	the	ith re e lan	egard to the language , this opinion has been established on the basis of the international application in inguage in which it was filed, unless otherwise indicated under this item.		
		lai	nis opinion has been established on the basis of a translation from the original language into the following nguage , which is the language of a translation furnished for the purposes of international search nder Rules 12.3 and 23.1(b)).		
2.	Wi ne	th re cess	egard to any nucleotide and/or amino acid sequence disclosed in the international application and eary to the claimed invention, this opinion has been established on the basis of:		
	a . 1	type	of material:		
			a sequence listing		
			table(s) related to the sequence listing		
	b. f	form	at of material:		
			in written format		
			in computer readable form		
	c. t	ime	of filing/furnishing:		
	1		contained in the international application as filed.		
	l		filed together with the international application in computer readable form.		
	ł		furnished subsequently to this Authority for the purposes of search.		
3.		cop	addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto is been filed or furnished, the required statements that the information in the subsequent or additional pies is identical to that in the application as filed or does not go beyond the application as filed, as propriate, were furnished.		
4.	Additional comments:				

International application No. PCT/IB2005/050012

Box No. V Reasoned statement under Rule 43bis.1(a)(l) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)

Yes: Claims

1-20

No: Claims

Inventive step (IS)

Yes: Claims

No:

Claims

1-20

Industrial applicability (IA)

Yes: Claims

1-20

No: Claims

2. Citations and explanations

see separate sheet

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1 Reference is made to the following document/s/:

D1: DE-A1-198 32 472 (Robert Bosch GmbH) 27th January 2000 (2000-01-27)

D2: EP-A2-1 170 727 (NEC Corporation) 9nth January 2002 (2002-01-09)

D3: EP-A-0 554 962 (NOVANEX AUTOMATION N.V) 11 August 1993 (1993-08-11)

The document D1 is regarded as being the closest prior art to the subject-matter of claim 1, and shows (the references in parentheses applying to this document):

A method for automatically equalizing an audio signal (22, 28), the method comprising:

measuring spectral energy values (52) for a plurality of frequency bands; determining spreaded energy values (12, 14) for each frequency band based on the measured spectral energy values and

a spreading function (46, 42), the spreading function defining a spread of sprectral energy across frequency bands; and

updating equalizer settings for each frequency band based on the measured spectral energy values and the spreaded spectral energy values.

Although claim 1 could be read in this sense onto D1, it is clear from the description that the terms "spreaded energy value", "spreading function", and "measured energy value" do have a particular meaning in the context of the present application. These features are determined on page 6, lines 1 to 10. Therefore it is considered that claim 1 is new (Article 33(2) PCT).

The subject-matter of claim 1 differs from this known D1 in that the audio enhancement is done essentially on the acoustics in the room and not on the signal source of the audio signal. The problem to be solved in this context would be how to further enhance the audio signal itself independent of the surrounding room.

The solution to this problem proposed in claim 1 of the present application is

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (SEPARATE SHEET)

International application No.

PCT/IB2005/050012

considered as involving an inventive step (Article 33(3) PCT) for the following reasons:

No document in the found prior art discloses to enhance the audio signal by using psycho acoustic findings and creating special spreading functions to detect a masking energy and to enhance masked energy portions of the audio signal.

Claims 2 - 9 are dependent on claim 1 and as such also meet the requirements of the PCT with respect to novelty and inventive step.

The same reasoning applies, mutatis mutandis, to the subject-matter of the corresponding independent claims 10 and 19, and equally to the dependent claims 11 - 18 and 20, which therefore are also considered new and inventive.

From the					REC'D 1	5 APR 2005	
INTERNATIONAL SEARCHING AUTHORITY			WIPO POTY				
То:				P(CT		
see form PCT/ISA/220			WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43 <i>bis</i> .1)				
			Date of mailing (day/month/year) see	form PCT/	ISA/210 (seco	and sheet)	
Applicant's or agent's file referencesee form PCT/ISA/220	ə		FOR FURTHER A See paragraph 2 below				
International application No. PCT/IB2005/050012		International filing date (d 04.01.2005	lay/month/year)	Priority date (day/month/year) 06.01.2004			
International Patent Classification G10L19/02	(IPC) or b	ooth national classification a	and IPC	 			
Applicant KONINKLIJKE PHILIPS EL	ECTRO	ONICS, N.V.					
This opinion contains	ndicatio	ons relating to the folio	owing items:				
Box No. I Basis of	f the opi	inion					
☐ Box No. II Priority	Priority						
☐ Box No. III Non-es	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability						
_	Lack of unity of Invention						
☐ Box No. V Reason	Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement						
		ents cited	supporting such state				
☐ Box No. VII Certain	Certain defects in the international application						
	Certain observations on the international application						
2. FURTHER ACTION							
If a demand for internation written opinion of the International Bureau undwill not be so considered.	rnationa Authorit er Rule 6	I Preliminary Examining v other than this one to	Authority ("IPEA"). Ho be the IPEA and the c	wever, thi	is does not a	apply where	
If this opinion is, as provion submit to the IPEA a writt months from the date of rouths whichever expires later.	en reply	together, where approp	riate with amendment	te hoforo	the evniratio	on of three	
For further options, see Form PCT/ISA/220.							

Name and mailing address of the ISA:

Authorized Officer

<u>)</u>

European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016

For further details, see notes to Form PCT/ISA/220.

Blaas, D-L

Telephone No. +31 70 340-3244



International application No. PCT/IB2005/050012

Box No. I Basis of the opinion
 With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
This opinion has been established on the basis of a translation from the original language into the followi language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
a. type of material:
☐ a sequence listing
☐ table(s) related to the sequence listing
b. format of material:
☐ in written format
☐ in computer readable form
c. time of filing/furnishing:
□ contained in the international application as filed.
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☐ furnished subsequently to this Authority for the purposes of search.
3. In addition, in the case that more than one version or copy of a sequence listing and/or table relating there has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

International application No. PCT/IB2005/050012

Box No. V Reasoned statement under Rule 43*bis*.1(a)(l) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)

Yes: Claims

1-20

No: Claims

Inventive step (IS)

Yes: Claims

No:

Claims

1-20

industrial applicability (IA)

Yes: Claims

1-20

No: Claims

2. Citations and explanations

see separate sheet

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

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International application No.

PCT/IB2005/050012

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